CHALLENGES TO THE HUMAN RIGHT TO WATER AND TO THE SUSTAINABILITY OF SERVICES IN SANTA CRUZ, CABO VERDE[1]

LARISSA HELENA FERREIRA VARELA[2]

Development of the paper

Introduction

The increase in the size of the population and the imperative of continuously improving its living conditions have placed great pressure on water resources. This pressure is particularly felt by those families, peoples and regions most vulnerable to the effects of climate change on the water resource sector, namely with the accentuation of climate variability, prolonged droughts and flooding. Despite their known scarcity, these water resources remain indispensible to satisfying the diverse interests of the health, economic and environmental sectors, among others. The coherent allocation of available water resources or of financing for the sector is unlikely to be able to favor all interested parties simultaneously. Social inequalities, which favor some groups to the detriment of others, mean that the unrestricted application of conventional mechanisms – namely economic ones – in the management of water services will fail to guarantee water for human consumption on a level able to satisfy the interests defended by public and private parties, namely the state, service providers and home consumers in rural and urban areas. In order to ensure social justice and consolidate the provision of water to the population as a priority of the water resource sector, the United Nations General Assembly approved Resolution nº 64/292 of September 2010, which "recognizes the right to safe and clean drinking water and sanitation as a human right that is essential for the full enjoyment of life and all human rights," and which constitutes a mechanism for achieving the Millennium Development Goals, in which access to water appears as an explicit and quantified objective (Correia, 2013).

1. I extend my thanks to the Santa Cruz Autonomous Water and Sanitation Service in the person of its delegate director and its technical staff for the opportunity they afforded me to form the group coordinating the inquiry work, and for approving of the use of the resulting data for academic purposes.

2. PhD student in Climate Change and Sustainable Development Policies at the University of Lisbon's Instituto Superior Técnico in Lisbon, Portugal, and holds a scholarship from the Camões Institute – Portugal. E-mail: larissavarela23@gmail.com

In the specific case of Cabo Verde, the country on which this study is focused, in order to supply the economy and ensure the health and well-being of the population through access to water, a number of challenges will have to be overcome, including: (i) the financial difficulties faced by water and sanitation service providers, which constitute a factor of weakness for the future sustainability of the sector; (ii) scarcity of water, resulting in the need to resort to desalinization, with its inherently high production costs; (iii) the sector's institutional limitations, with overlapping functions and responsibilities; and (iv) lack of clarity in the definition of institutional dividing lines (Marques et al, 2014).

Despite these limitations, 61.5% of families in Cabo Verde have running water and 21% are connected to the sewer system (INE-CV, 2012), while the establishment and charging of tariffs has contributed, to a certain degree, toward the sufficiency and stability of revenues resulting from the services, as well as to economic efficiency and the conservation of resources. However, according to Fonseca (2005), the financial situation of the water and sanitation services of the island of Santiago is dire, a state of affairs caused not by the current tariff scale for home consumption, but rather by the failure on the part of decentralized state services to pay the water and sanitation service providers, as well as by the sale of water for irrigation at below cost per cubic meter (Government of Cabo Verde, 2013).

Without casting doubt on the legitimacy of ensuring the financial sustainability of water service providers, and acknowledging their importance for the quality of services, in a country such as Cabo Verde that practices the Rule of Law, the fundamental human right to water and sanitation must also be respected. The United Nations Commission on Economic, Cultural and Social Rights declared, "Water is fundamental to life and health. The human right to water and sanitation is indispensable for leading a life in human dignity" (UNESCO, 2004), making official the incontestable reality that water services are essential in achieving all other human rights and that, as such, this right must also be supported by varied mechanisms for its promotion and full implementation, placing an emphasis on practical solutions with regards to its execution, following the criteria of availability, quality, physical and economic accessibility, affordability and acceptability (UN, 2014).

Affordability is clearly dependent upon the ability to pay for services, which, for its part, depends on a vast interplay of factors that it is up to the State and its institutions to control through adequate public policies. This article is aimed at diagnosing the Santa Cruz municipal Autonomous Water and Sanitation Service (SAAS) clients' ability to pay, seeking solutions that can help establish a harmonious balance between socioeconomic conditions, the realization of the human right to water and the sustainability of services.

a. Socio-environmental context of Cabo Verde

Cabo Verde is an island nation made up of ten islands (Santo Antão, São Vicente, Santa Luzia, São Nicolau, Sal, Boavista, Maio, Santiago, Fogo and Brava) and thirteen islets, located some 450 kilometers from Senegal off the West African coast, in a highly arid meteorological zone. The country's total land area is 4,033 square kilometers. Cabo

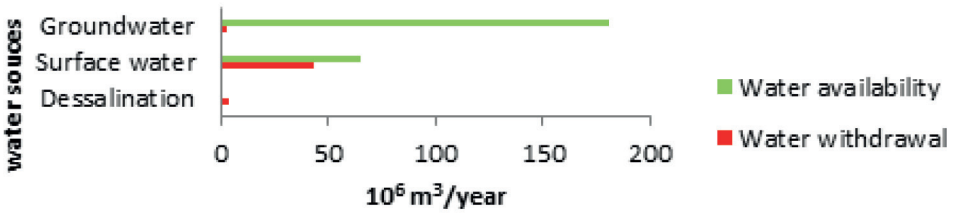
Verde's economy is based mainly on the service sector, which was responsible for 85.5% to GDP in 2007 (Law-Decree nº 7/2004). Approximately 37% of the country's resident population is poor and 16% is considered very poor. Poverty in Cabo Verde is structural in nature, and is related to the weakness of the productive base and the particular characteristics of the economy.

Cabo Verde has a dry sub-tropical climate characterized by a short rainy season from July to October, with precipitation that is, at times, torrential and erratically distributed in space and time. Average annual precipitation is approximately 225 mm, a figure that has been on a downward trend since the 1960s, with negative consequences not only on agricultural production but also on the water supply.

b. Origin and availability of water resources in Cabo Verde

According to data from the Water Resource Directive Plan and the United Nations Development Program (UNDP), the availability of water resources of natural origin in Cabo Verde is $235.5 \times 10^6\ m^3$, a figure far below the necessary threshold for the lack of water not to affect development or jeopardize human health, and which classifies the country at the level of absolute water scarcity (Earth Trends, 2001, cit. in EPA, 2005). Ground water, which is captured at a depth of between 60 and 80 meters, is the main origin of the water used by the population, representing 87% of the total supply of water to society. This source is being exploited at a rate of 65% of its total availability, while the mobilization of surface water is infrequent, as may be seen in Figure 1.

Figure 1. Availability and Mobilization of water in Cabo Verde – Sources: Adapted [(INGRH, 2010); (MAHOT, 2013); (MAAP, 2004)]



The demand for water is dominated by agriculture, which is currently in a phase of development but whose sound use of 71% of the total water supply remains at a relatively low level.

The use of desalinization has grown and carries with it an energy cost of 112.5 ECV/m^3, a figure equivalent, in many cases, to half of the base tariff (Fonseca, 2005). Similarly to the case in other countries experiencing extreme water scarcity, this alternative origin has grown, so much so that by 2013 the proportion of desalinated water in domestic consumption was equivalent to that of ground water.

Even with continuous increments in the supply of water over the course of time, per capita domestic consumption of water remains below the desired threshold, especially

for those without home water grid hookups. According to data from the most recent National Statistics Institute (INE) Continuous Multi-Purpose Inquiry (2012), 61.5% of Cabo Verdeans have running water and consume an average of 50 liters per inhabitant per day, while the rest consume approximately 15 liters per inhabitant per day. This situation does not favor the health and wellbeing of populations, does not facilitate the development of routine hygiene habits and fosters the prevalence of diarrheic illnesses, situations that contribute toward deepening poverty.

Wastewater drainage and treatment services cover 21% of all households (INE--CV, 2011). Most of the population uses septic tanks in order to dispose of wastewater, and 27% of the population still defecates outdoors – situations that are both considered to be risk factors for the quality of water. Wastewater treatment and its valorization remain insipient. According to Varela et al. (2011), Cabo Verde has a treated waste water potential of 15,940 m^3/day. Only 2,409 m^3/day (15% of this total), however, are collected and treated in the 6 waste water treatment facilities currently in operation in the country (Varela, Duarte, & Pinto, 2011).

c. Water service and waste water treatment providers in Cabo Verde

Water services in Cabo Verde are guaranteed by 19 providers that manage a water supply of 7.2 Mm^3/year, in most cases with their activities limited to the administrative borders of their respective municipalities. Fifteen of these providers are public municipal water and sanitation services (ten of which have the status of Autonomous Water and Sanitation Services, which are managed autonomously, and five of which are managed in conjunction with the local municipal government). Electra is the most important public provider, operating in the country's three main population centers. The public-private provider model has been gaining some ground, and is present in four of the country's islands. The financing of infrastructures and services has been supported mainly by the state through foreign aid. Participation on the part of private players in the provision of basic services is still relatively inexpressive, according to the World Bank's report on infrastructures in Cabo Verde (World Bank, 2010). Approximately US$ 25 million are invested annually in water and sanitation provisioning infrastructures (17% of the total of all investments). The same report presents the OCDE countries as the main financers of investments in infrastructures in the sector.

d. The basic principles of the human right to water and sanitation

The human right to water and sanitation, which was made official through United Nations General Assembly Resolution A/RES/64/292 in September of 2010, stipulates that no justifications of race, creed or economic condition may be used to deny the right to accessible water and sanitation services, physically or economically, of a quality that is not detrimental to health, that is made available in adequate quantities and provided through coherent solutions acceptable at a socio-cultural level. This declaration clearly takes on accountability, equity and participation, among others, as basic principles, and

reiterates an appeal to states and international organizations to provide financial resources, aid in capacity-building and technology transfer to support countries, particularly less developed countries, in guaranteeing this right. A priori, there does not appear to be any antagonism between the principles of the human right to water and sanitation. Indeed, these principles are in total complementarity and are aligned with the principles of integrated water resource management. Nevertheless, the scenarios of each different reality can place some of these principles in conflict with one another on the short, medium or long term.

Correia (2012) summarizes the principles of the universalization of access to water and sanitation that underlie the declaration of this human right as follows:

Non-discrimination – as a universal and unrestricted right aimed at preventing the abuse of power in distinguishing among users.

Participation – without prejudice to effectiveness and grounded in information and education, participation fosters a feeling of belonging and responsibility with regards to equipment to develop.

Sustainability - Charity is possible, but erodes the system's productivity on the middle to long term. Mechanisms must be created to ensure the long-term operation and maintenance of the systems installed.

Accountability - Being transparent in the provision of accounts and taking responsibility for actions. Having mechanisms for equitable conflict resolution.

Impact - Actions must always increase the number of people with access to water without ever degrading the conditions of those who already do have access.

Availability - 50 liters of water per person per day.

Quality and safety –Water that does not do harm to human health.

Acceptability – Cultural and religious values respected.

Accessibility – Supply points located at an average distance of 30 minutes or 1,000 meters

Chargeability – ***ability to pay*** water costs, which should not exceed 3% of families' income.

In Cabo Verde the principle of families' ability to pay for water services and equity in access have merited particular political attention by way of positive discrimination in decisions favoring social strata with weaker financial resources. Gender equality and equity – women's empowerment – is one of the priority axes of the country's development strategy, and cuts across all other areas, but is given special attention on the level of water resource policies.

Women make up 50.5% of Cabo Verdean society. Among the 48% of female-headed households is a higher percentage of poorer families than in the group of male-headed households. In terms of the provision of water services, female-headed households have been less privileged, as, according to the INE-CV (2014), "The comfort level of households – an indicator whose main component is access to basic services – on its lowest levels (low and very low) shows that global differences between the sexes exist, with a

proportion of households represented by women of 47.2% versus 44.8% in those represented by men. In taking into account the typology of the households, the asymmetries become clearer. Female-represented households present a high or very high comfort level only in the case of single-person households and in households whose members have no family relationships. In single-parent households, this proportion is lower, with 12.6% showing a high or very high comfort level, in comparison with 18.3% of single-parent households represented by men."

Women and girls ensure the transportation of water from the supply point to the home, often investing four to six hours of their time, making their way to the supply point an average of two to three times a day. The water is transported on their heads in precarious hygienic conditions in containers of 20 liters or more, which can seriously jeopardize posture, especially that of children who exert this effort.

The analysis of these principles, though, is also extended to the financial sustainability of service providers. In this sense, attention must be paid to the fact that providers face challenging situations on a daily basis to provide services to the Cabo Verdean population.

e. Charging for water services

Charging for water services is a tool that serves the sector's policies and has at least two distinct but complementary objectives. The first consists of encouraging rational behavior among users, while the second, which takes on greater importance in regions displaying a shortage of investments in water infrastructures, allows for the leveraging of significant resources in order to provision for investment needs (CORREIA, 2004).

The establishment of tiered and well-founded pricing systems has been the object of considerable technical effort, with the awareness that, according to Correia, there is no knowledge of any cases in which the tariffs charged are based exclusively on economic calculations, despite the fact that these issues have been theorized upon for a number of decades.

In order to ensure the sustainability of financing, a fundamental issue must be attended to – the general balance of the sources of revenue among public funds, tariff revenues and outside subsidies (3T – tariffs, taxes and transfers). According to the OCDE, many countries, even developed ones, favor dependency on public subsidies and state financial facilities over tariffs for cost recovery purposes, and have differentiated stances regarding the use of market-based financing and the involvement of the private sector (OCDE, 2008).

Although financing constitutes a necessary condition for providing water services, it is not sufficient for the success thereof, with it being necessary to maintain a sustainable inflow of revenue, making effective use of what is available.

According to Fonseca (2006), some of the tariffs applied in Santiago are unaffordable for the poorest parts of the population, accounting for as much as 21% of the monthly income of those living in extreme poverty. Although the number of those in this social condition has shrunk, the tariff scale has not changed, and the ability to pay of at least 60,000 Cabo Verdean families continues to be seven times higher than the 3% the

OCDE recommends in its water service sustainability strategic plan (OCDE, 2008), and four times higher than the 5% of income projected by Cabo Verde's National Strategic Water and Sanitation Plan (PLENAS 2015-2030).

2. Methodology

This empirical work used as its case study the municipality of Santa Cruz, where primary data was collected through an inquiry alongside representatives of households that use the municipal water supply system.

A printed questionnaire was used in closed interviews with the representatives of households, and included issues such as: (1) the identification and socioeconomic characterization of the interviewee; (2) access to water and satisfaction with the service provided; (3) regularity of payment of water service bills; (4) the perception of the financial burden with water in regular situations and in situations of the interruption of services; and (5) the composition of a desirable future scenario for water services.

A total of 286 representatives from various different locations in the municipality of Santa Cruz attended to by the Santa Cruz Autonomous Water and Sanitation Service were inquired during the month of August 2013. In concrete cases in which a large portion of the community shared the same problems in terms of access to water, focus groups were formed to identify desirable mechanisms for resolving these problems.

The number of interviewees represents 5% of the SAAS clients. The frequency of each variable was analyzed and the average of each variable compared (with a margin of confidence of 95%) using the SPSS program (version 17.0) as support. Clients who obtain their water from public fountains were also inquired in order to assess their satisfaction, expectations and willingness to contribute to improvements in the water service.

a. Description of the Santa Cruz Autonomous Water and Sanitation Service

In the municipality of Santa Cruz, the water service provider attends to a population of 26,617 inhabitants divided into 5,679 households, 2,426 of which are headed by males and 3,253 of which are headed by females. The incidence of poverty in the municipality is among the highest in the country, standing at 32.9% in urban areas and 53.6% in rural areas.

According to the latest Santa Cruz SAAS report, an average of 926 m^3 of water are produced for domestic use per day, 72% of which comes from ground water sources and 28% of which results from the desalinization of salt water. This volume corresponds to 12% of the total of all of the water mobilized by the SAAS, with the largest portion being channeled into agriculture.

A total of 5,436 households who are connected to the water supply system (95.7% coverage) are attended to on a daily basis. Since 2007, 1,256 households have had access to the wastewater drainage and treatment system (21% coverage rate, restricted to urban areas). The report also indicates that 120 households are supplied through public fountains, 20 households are supplied by water tank trucks and 90 households are supplied

by wells and springs. Of the total volume channeled into the public water supply, 44% is not invoiced, a figure that includes of physical losses (15%) and commercial losses (28%), the latter of which are associated particularly with the incisive violation of infrastructures and water theft (SAAS Santa Cruz, 2013).

The price of water services in the municipality, as per the tariff scale applied, is 0.28 escudos per liter (or 0.0028 euros per liter) through the public grid, 0.35 escudos per liter (0.0035 euros per liter) at public fountains and 0.5 escudos per liter (0.005 euros per liter) from water tank trucks.

The service's revenues stood at 48,936,480 escudos (€ 444,069) in 2013, compared to net expenses 1.5 times higher, in addition to a considerable accumulated debt. As such, the service is obviously unsustainable, and, in order to guarantee its operation, is financially subsidized by the local Santa Cruz municipal government.

The service issues monthly bills to water service clients. One of the coercive measures applied in cases of non-payment for water services consists of cutting off the water supply after at least three consecutive unpaid bills.

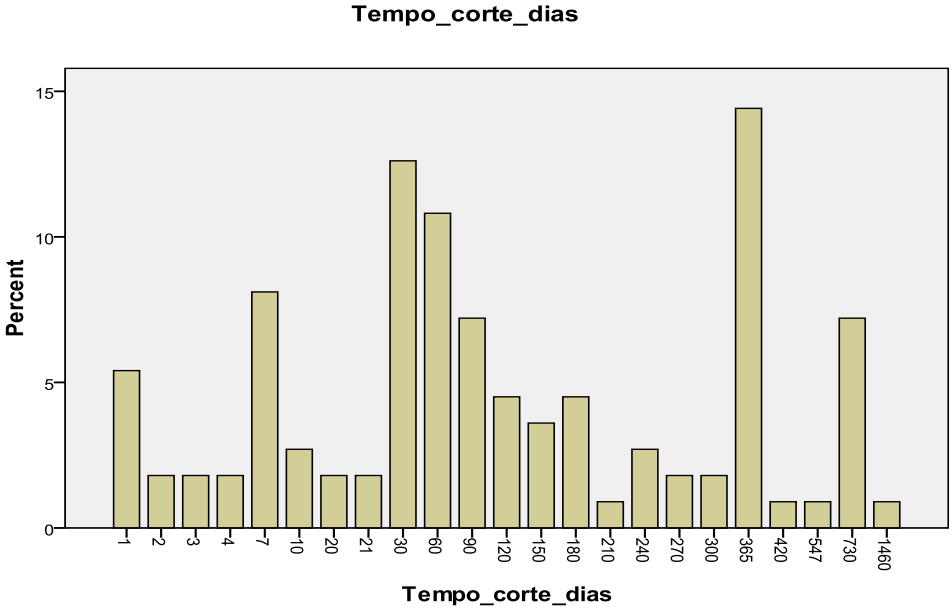
3. Results obtained

Among the home water supply service clients interviewed, 54% were male household representatives and 46% female, with ages ranging between 19 and 95 and an average age of 51. A total of 23% of those in this group affirmed that no members of their household had an income. Of those interviewed, 99% had water flow rate meters.

At least 47% of the households interviewed had had the supply of water to their homes cut off at least once, and the main reason for the suspension of the supply was failure to pay bills, itself a result of the lack of availability of the amount of money necessary (88% of all cases). Technical problems associated mainly with water meters were the reason for 10% of the cuts in the water supply that occurred.

With regards to the income / bill payment ratio, it was seen that the effect of the existence or non-existence of income on the clients' condition (in other words, whether or not they had had their water supply cut off at some point) was not significant. However, it was determined that within the group of those claiming no source of income (people whose income was equal to 0), the majority had experienced a suspension of services. The length of the suspension of service (tempo_corte_dias) was highly variable, ranging from 1 to 1,460 days (approximately three years). 14% of clients who had experienced suspension of services had gone without running water for approximately one year, as illustrated in Figure 2.

Figure 2 - Length of suspension of water supply



An important piece of data has to do with the reoccurrence of suspension of water services. Two-thirds of those who had had their supply cut off saw services suspended again a relatively short time after being hooked back up to the grid. Indeed, of the 19% of those interviewed who had their water supply cut off during the course of the inquiries, all had previously experienced the situation, except the rare cases in which the supply was never re-established following the first suspension, cases that are generally associated with the maximum period of suspension registered among the households inquired.

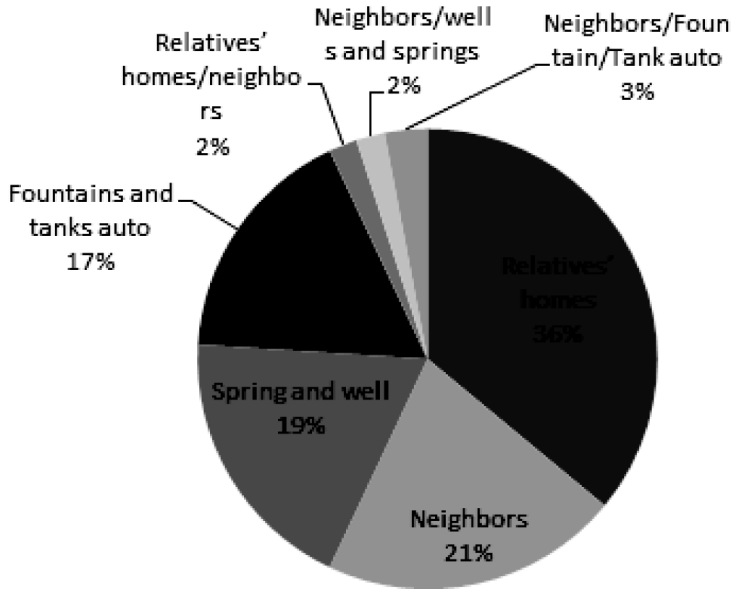
Regarding the period between August 2012 and August 2013, 56% of clients experienced at least one suspension. During this one-year period, there were cases of reoccurrence with two suspensions (7%), three suspensions (3%) and even four suspensions (0.9%).

When their home water supply is cut off, users are forced to resort to other means of obtaining water. In the population studied, the main way of obtaining water in cases of suspension of services consists of obtaining water in relatives' homes (36%). Neighbors constitute the second most common alternative (21%), as is shown in Figure 3.

The water consumed in periods during which the home hookup is suspended is not always paid for. Only 44% of those who had experienced suspension of services affirmed they had paid for the water consumed during the period, and in these cases payment was generally made with money (91% of cases). Also within this group, 61% felt that their costs with water were lower during the periods in which they experienced suspension of services, while 30% believed that water became more costly during these periods. With regards to the quantities of water consumed, those who had experienced or were expe-

riencing a suspension in their water supply all declared that they consumed less water in this situation. In 68% of cases, the perception was that the quantity of water consumed was unsatisfactory, while 32% felt satisfied with the quantity of water to which they had access in situations of suspension of services.

Figure 3 - Ways of obtaining water supply for households experiencing suspension of water services

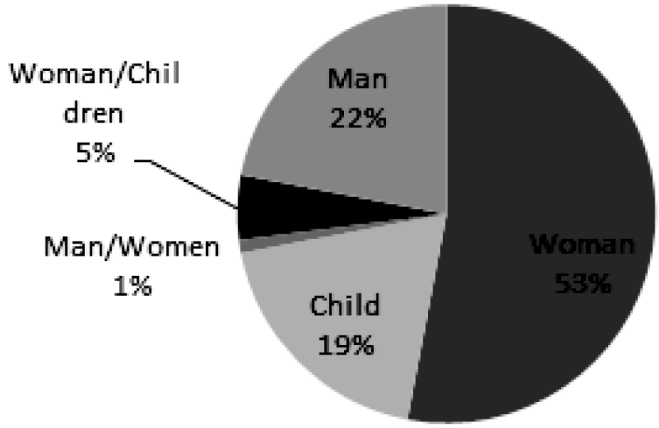


In addition to the insufficiency of water experienced during the suspension of service, the difficulty experienced obtaining water, shame and, in some cases, the lack of willingness on the part of neighbors to provide the water needed for the day constitute the main constraints the clients experience during the suspension of services. Those who most often face these challenges are women, who in 53% of cases are those who go out in search of water during the suspension of home water services, as can be seen in Figure 4. Children also participate in the quest for water, either exclusively (in 19% of cases) or alongside women (in 5% of cases).

For 89% of users with accumulated debts alongside the SAAS, the main method used to pay off this debt is through installments – in other words, the need for a case-by-case discussion regarding accumulated debts, the re-activation of services and the payment of outstanding bills in installments was understood. In other less common cases, clients had to have their debts pardoned (6%) or resorted to social aid (5%) in order to cover water costs.

Nevertheless, there are still many households whose water supply is suspended. In order to facilitate access on the part of these families to basic water services, 39.6% of the population believes that local public fountains should be reactivated. The remain-

Figure 4 - Those responsible for gathering water during suspension of service



ing 60.4% of the population of Santa Cruz, on the other hand, points to options such as improved financial education regarding the importance of the diligent payment of water bills (28.7%), an increase in employment opportunities to improve families' social and financial conditions (8.4%) or social aid (3.4%) in order to avoid situations of lack of payment liable to lead to the suspension of service.

It was seen that the quality of billing and collection services did not affect the suspension of service, as the majority of clients regularly receive their bills monthly (86%) and feel completely clarified regarding the contents thereof – in other words, in their opinion, the bill is clear (83%). However, half of the population takes more than one month to settle their monthly bills.

The suspension of the water supply was designed as a coercive measure to encourage the payment of bills. The measure is approved of by 61% of the population, which believes it to be positive when applied after three bills have gone unpaid, justifies this position with the opinion that it allows for the improved management of spending and that it fair given the importance of water services, and believes that all clients should settle their bills on a monthly basis.

One of the provider/consumer conflicts resides in the 39% of the population that believes that cutting off the water supply after three unpaid bills is a poor measure. In summary, the reasons given for opposition to this policy are the following:

Situations should be assessed on a case-by-case basis;

The SAAS should wait at least 5 bills before suspending the water supply;

In some cases, the amount of the debt does not justify suspension, for in the case of poorer clients, the amount of the debt may even be lower than that of the reconnection fee;

Because the failure to pay is due to lack of income;

Families have many expenditures and are unable to afford all of them;

The SAAS should be more understanding with regards to clients' payment problems, including shortage of employment or other means of earning income that would allow them to pay their bills.

The combination of the clarity of the billing process and the satisfaction with customer service affect the client's satisfaction with the services provided by the SAAS. Another point of conflict, then, resides in the fact that 34% of the population believes that the approach of the SAAS's meter readers, as well as employees' attitude in attending to clients' problems, are far below the desired level.

Another point of conflict between consumers and the SAAS is the quality of the water provided. During the period in which the inquiry was carried out, an operational problem in the system was constant, leading to a significant reduction in the supply of water, affecting not only the quantity but also the quality of the good, although the quality recommended for human consumption was maintained. It is, however, important to evaluate consumers' perception of this situation, which dragged on for several months.

Based on the responses to the questionnaire, it was found that 52% of the population did not notice any alteration and believed that the water provided was of high or very high quality. Among the rest of the population, 37% thought the quality reasonable or unchanged, while 11% considered it poor and believed quality had worsened.

In terms of the quantity of water, 84% of those inquired continued to receive the same quantity of water, while 16% received less water for their daily affairs, demonstrating that the reduction in the daily amount of water produced was not noticeable.

Knowing that water is supplied itinerantly, with some locales receiving less often than once a day and for short periods (an average of four hours of continuous supply per locale), 76% of those questioned believe that the water is piped to their homes at an adequate time of day, while 16% are not satisfied with the distribution time.

Clients supplied by public fountain in Monte Negro

Monte Negro is a rural community with 104 households that is not covered by the public water grid and whose population obtains its water from a fountain every other day. According to information from the community, 80% of families do not have a bathroom or kitchen inside their homes, and half of all families do not have a steady income. This information coincides with the data from the inquiries. 10% of all of the households were inquired, and it was noted that, in addition to obtaining their water supply from the public fountain, using the water for household purposes and, in 60% of cases, for livestock (the main activity of the local population), nearly the entire population also makes use of wells and springs (where the water is not paid for and which are located far from the community), while 60% of households have cisterns to collect and store rain water.

Most consider the water to be of good quality, and half feel that the quantity is not enough to meet all of their needs. Most feel satisfied with the water distribution schedule at the public fountain (every other day for between two and four hours).

The transportation of water from the fountain to the homes is carried out mainly by women (in half of the cases) and by children who sometimes accompany and saddle the donkeys used for transportation. The time spent transporting water varies between one and two hours a day. Although satisfied with the supply of water from the public fountain, all would like to have a home hookup, and 60% are willing to pay to get one, while 20% would not pay for a home water hookup, with the justification that they are unable to afford it.

Focus groups in Boa Ventura – population with services suspended for non-payment

In this rural community, the water supply service became a reality a short time ago, and home water grid hookups were paid for in their entirety by programs heavily subsidized by international cooperation agencies and domestic donors.

The participants in the focus groups are heads of households whose water supply has been cut off for the first time, a rather common situation in the community. These people resorted to consuming well water, which they consider to be of poor quality.

Among the reasons for having their water supply suspended, some claim faults in the meter reading caused by problems with the meter hindering invoicing, billing and payment. They generally agree with the policy of suspending service after three unpaid bills, but, given the low consumption levels that are the norm in the community, believe that the total amount of the debt should be taken into consideration before making a decision to suspend services.

Focus groups in Salts – population with services suspended for non-payment

As in Boa Ventura, the rural population of Saltos received state subsidies for its residents to be connected to the water grid. Most of the residents of Saltos have had their water supply cut off for more than seven months, having never paid for the service since being connected to the grid. Under these circumstances, most resort to wells for their water supply, and claim that the quantity of the water from this source is not sufficient, while the quality is extremely poor. They sometimes resort to distant public fountains in order to obtain drinking water.

Focus groups in lower Bela Vista – population not covered by public water grid and with no public fountain

In a recently-settled peri-urban zone that is not covered by the public water grid and does not have a public fountain, all of those inquired would like to have running water in their homes and are willing to contribute for this to be the case. Residents claim to undergo undesirable situations in order to obtain water, generally at friends' and relatives' homes, a situation that is humiliating in instances in which they see doors

closing as they approach, or when they are charged prices they consider excessive for each container of water. The participants in the focus group said they would accept the responsibility of contributing with the labor necessary in excavations for the installation of the network and were unanimous in saying they would contribute financially to acquire the pipes for the extension lines to their homes. They also requested that the SAAS allow those unable to pay the total amount up front to pay for the home connection contract in installments.

4. Discussion and recommendations

Considering the principle of shared responsibility for payment and sustainability of the service, it should be noted that unemployment and the lack of income are among the main challenges to the fulfillment of the human right to water and constitute one of the drivers of conflicts between service providers and clients. Their resolution surpasses the authority of the SAAS and involves the sphere of government and institutions aimed at promoting health, employment and wellbeing. It is clear that society will be stronger and more harmonious if existing shortcomings in the provision of water services are overcome, by way, no doubt, of adequate policies aimed at balancing interests.

In rural areas, the suspension of water services and the continuity of suspensions over a considerable length of time are more frequent and widespread among clients. Services only recently began to be provided in these zones, were entirely subsidized by development aid programs and, with there having been no continuity of mechanisms aimed at reducing inequalities in family incomes in order to render the system's benefits more durable, many were unable to pay their bills.

It is troublesome, from the point of view of public health and the sustainability of the service provider, to note that the population has the perception that water costs less during situations of suspension of service, after the major governmental efforts to provide running water in the home to the largest possible portion of the population. The costs associated with the reduction in hygiene and health conditions, and the loss of quality of life as a result of the reduction in the quantity and quality of water, are not necessarily apparent to clients, who do not add them into the cost of water in situations in which their home supply has been cut off. From a financial perspective, this perception discourages the payment of debts and places the provider's sustainability in check. An alternative vision of this perception is that the dilution of the cost of water in small portions to be paid on a daily basis, without having to save and disburse the monthly value of all of the water consumed all at once, transmits a false impression of lower costs for the family, when in many cases the costs may actually be higher.

The lack of clarifications and timely responses to clients' concerns, which were concluded to be faults on the part of the SAAS, fails to respect the principles of information and response capacity necessary for the good governance of water, particularly because, in this case, it leads to the suspension of the supply of water, with all of the resulting consequences of the limitation of access to the commodity.

- **From the perspective of affordability**

When two-thirds of clients who experience suspension of services once again have their water supply cut off some time after paying off their debts, with two or three reoccurrences in a single year, it becomes apparent that accountability and responsibility are not the principles in question. These groups of individuals truly cannot afford the water, and in these cases dividing the debt into installments does not constitute a solution unless the clients' incomes are corrected. In communities with no home water hookups, progress in terms of social capital has been noted, with the acknowledgement of the need to take financial responsibility for water services. This greater awareness, however, has intangible social costs to which these communities are exposed on a daily basis: humiliation in accessing water at neighbors' homes, opportunity costs associated with the time lost in the quest for water, and the lack of water provisioning solutions, which generates uncertainties in their daily lives (mainly whether or not they will have water for their basic everyday needs) and risks to their health.

- **From the perspective of the principle of equity**

It is apparent based on the information gathered that the poorer echelons of the population of Santa Cruz, whose water supply comes from public fountains or water tank trucks, pay, respectively, 1.25 to 1.8 times more for water than those who are supplied through the public grid. According to Rouse (2008), this number is sometimes higher in the developing world. The poor often pay 25 times more per liter of water at the faucet than do others, particularly because it is harder for this class to save the money needed for home hookups and for the payment of monthly bills. The principle of equity is, thus, violated, for social justice does not prevail.

From the gender perspective, it has been seen that the negative effects of the experience of not having running water in the home, as well as the experience of having one's water supply cut off, fall mainly upon women, who are those most involved in obtaining and providing water for their households.

In summary, based on a review of the bibliography and the interpretation of the results of the inquiry, we believe that interactions between the provider and the consumer, especially the female consumer, call into question the principles of the human right to water and sanitation at various levels, thus meriting coordinated and multi-directed attention.

Poverty is clearly a segregating factor in terms of conditions of access to water, with there being a need to develop approaches that ensure the annulation of its effect on the minimum limits of conditions of access to water services.

In a comparative study of the experiences of Germany, France and England, Vergès points out a number of initiatives that we believe to be pertinent to Cabo Verde's context. Autonomous Water and Sanitation Services cannot take on the cost of the service provided to needy families at the risk of compromising the sustainability of the service itself (Vergès, 2010). Similarly to what is seen in these countries, Cabo Verde should integrate

mechanisms aimed at guaranteeing paid water services for vulnerable families into its anti-poverty strategies through the housing or health sectors.

The water resource management system must take into consideration the fact that foreign development aid does not constitute a reliable source of revenue for the sector, and that it may become scarce depending on various different and difficult-to-control factors. For the 38% of households that do not yet have access to water supply services and the 79% that are not connected to the grid, households located mainly in rural areas, opportunities are more elusive, with it being necessary to rely on cross-subsidies between the rural and urban worlds in order to ensure that investments in infrastructures are made.

In terms of direct interventions, our first proposal for improvement is the development of continuous water payment systems and facilities in the payment for home hookups in order to establish price equity and affordability for the services. In Rouse's vision, lowering tariffs to facilitate home water supply for the poor could be compromising, as it results in the deterioration of the system and in the financial inability to maintain services. Vicious circles are established when the policy chosen is to lower tariffs. Lower tariff scales without subsidies mean poor services, unhappy consumers and low earnings. Low earnings, for their part, mean low wages, low motivation, greater stimulus for corruption, poor performance and, once again, consumers unhappy with the services provided. The use of subsidies, for its part, means state control, low initiative, weak motivation and, as such, poor services (Rouse, 2008). Total cost recovery is essential for the sustainability of systems and should be a part of policy in order to ensure the effective provision of services to the poor, eliminating any association between the human right to water and free water services. According to the International Water Association (IWA), sustainable cost recovery must allow water services to achieve and maintain a given standard of service for current and future generations.

In rural or peri-urban areas, where most consumers in conflict with the providers reside, innovative or traditional solutions whose costs, particularly operating and maintenance costs, are lower than the cost of water from the public grid, may be put into practice to diversify the supply by using solutions including integrating the mobilization of rain water falling on roofs, re-using waste water and mobilizing water from clouds or fog. These communities, however, have to be directly assisted with subsidies in order to guarantee professional management in the design and monitoring of the systems. According to Thomas & Durham (2003), given the complexity of the decision-making process inherent to initiatives of this type, they can only be implemented within a context of integrated water resource management (Thomas & Durham, 2003). Singapore has been successful in developing centralized policies to this end, which resulted decisively in increasing the supply of water and ensuring the country's water autonomy, allowing the city to be cited as an example of a water-sensitive city (Wong & Brown, 2009).

In addition, it was seen that some households engage in small-scale agricultural production using water from the grid, which indicates that the population is aware of the possibility of adding value to the water supplied through the system. As such, the use of water in the household economy could constitute a means of increasing family incomes and reinforcing their capacity to pay for water services. Once again, rural and peri-urban

areas are the most conducive for developing activities such as vegetable growing for small--scale commercialization, associated, of course, with systems aimed at the optimization of water use in agriculture.

5. Conclusion

The results obtained from this empirical work allow us to conclude the following:

Approximately 31% of the population of Santa Cruz presents a weak ability to pay for water, keeping it in a persistently irregular situation with regards to bill payment. This group is made up mainly of socially less favored individuals.

The total subsidizing of home grid connections led, in the middle term, to cases of long periods in which households experienced situations of suspension of services, and did not resolve the lack of water in the home in a durable manner. Among the population that is not yet covered by water services, social awareness has formed regarding citizens' financial responsibility in relation to the service.

The case of Santa Cruz illustrates the need for new social engineering that leads to greater awareness regarding consumers' need for responsibility and accountability vis-à-vis the services they receive, an improved tariff scale in order to safeguard households'' ability to pay for services, and the sustainable allocation of the subsidies aimed at developing water services so that they may truly contribute to a greater degree of social justice.

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Submitted on: 22/07/2015
Accepted on: 19/12/2015
http://dx.doi.org/10.1590/1809-4422ASOC150167R1V1912016

CHALLENGES TO THE HUMAN RIGHT TO WATER AND TO THE SUSTAINABILITY OF SERVICES IN SANTA CRUZ, CABO VERDE

LARISSA HELENA FERREIRA VARELA

***Abstract*:** Ensuring access to water in adequate quantity and quality for human consumption at a fair and affordable price constitutes a supra-national commitment in the declaration of the human right to water and sanitation. In order to provide this service to society, financial resources are required to encourage new investment, maintenance and equipment replacement, adequate regulatory practices and a consistent legal framework. This article is based on a study of the affordability of water services by customers in the municipality of Santa Cruz, located on the island of Santiago in Cabo Verde, a country of high water stress and weak financial resources, in order to evaluate how socioeconomic conditions affect the realization of the human right to water. Data on socio-economic conditions, quality of services and affordability of clients was collected using survey tools, aiming to identify the need for differential treatment among consumers, requiring appropriate mechanisms of social solidarity to establish equity in access to services and, at the same time, ensure full cost recovery of services by the service provider.

Keywords: right to water, affordability, sustainability

***Resumo*:** A garantia do acesso à água em quantidade e qualidade adequadas para consumo humano, a um preço justo e comportável pelo consumidor, constitui um compromisso supranacional enunciado na declaração do direito humano à água e ao saneamento. Prover este serviço à sociedade requer recursos financeiros que favoreça novos investimentos, manutenção e substituição dos equipamentos, uma prática regulatória adequada e uma jurisdiscência coerente. Este artigo apoia-se no estudo da capacidade de pagamento dos consumidores de água do Município de Santa Cruz, localizado na ilha de Santiago em Cabo Verde, país de elevado stress hídrico e fracos recursos financeiros, com objetivo de avaliar como as condições socioeconómicas afetam a realização do direito humano à água. Recorreu-se a um inquérito de campo aos consumidores para proceder à recolha de dados socioeconómicos e capacidade de pagar pelos serviços e identificou-se a necessidade de tratamento diferenciado entre os consumidores, sendo necessário mecanismos de solidariedade social adequados para estabelecer equidade no acesso aos serviços e em simultâneo garantir a recuperação total dos custos dos serviços por parte da operadora.

***Palavras-chaves*:** direito à água, *capacidade de pagamento*, sustentabilidade

***Resumen*:** Garantizar el acceso al agua en cantidad y calidad adecuada para el consumo humano, a un precio justo y asequible para el consumidor, constituye un compromiso supranacional en la declaración del derecho humano al agua y saneamiento. Para proporcionar este servicio a la sociedad requiere de recursos financieros que alienta nuevas inversiones, mantenimiento y reposición de equipos, prácticas de reglamentación adecuada y legislacion apropriada. Este artículo se basa en el estudio de la capacidad de pago de los clientes de agua de la ciudad de Santa Cruz, ubicada en la isla de Santiago de Cabo Verde, un país de alta tensión de agua y débiles recursos financieros, a fin de evaluar cómo las condiciones socioeconómicas afectan a la realización del derecho humano al agua. A través de un estudio de campo para efectuar la recogida de los datos socio-económico, la calidad y la capacidad de pagar por los servicios por parte de los consumidores e identificar la necesidad de un trato diferenciado entre ellos, lo que requiere mecanismos de solidaridad social adecuadas para establecer la equidad en acceso a los servicios y al mismo tiempo garantizar la recuperación total de los costos de los servicios por parte del operador.

Palabras clave: Derecho al agua, la capacidade de pago, la sostenibilidad